California Voter Foundation

Via U.S. Mail

May 5, 2008

The Honorable Rosemary Rodriguez, Chair
The Honorable Carolyn Hunter, Vice-Chair
The Honorable Gracia Hillman, Commissioner
The Honorable Donetta Davidson, Commissioner
United States Election Assistance Commission
1225 New York Avenue, NW, Suite 1100
Washington, DC 20005

Re: Voluntary Voting System Guidelines Recommendations to the EAC, August 31, 2007

Dear Chairwoman Rodriguez and Members of the Commission:

Thank you for the opportunity to comment on the draft Voluntary Voting System Guidelines (VVSG) recommendations put forward by the Election Assistance Commission's (EAC) Technical Guidelines Development Committee (TGDC).

The California Voter Foundation (CVF) is a nonprofit, nonpartisan organization advancing the responsible use of technology to improve the democratic process, online at www.calvoter.org. CVF has been involved with voting technology issues for a decade, and the organization's board and staff have worked closely with several California Secretaries of State and their staff over many years to improve the transparency, accountability and security of voting systems used in our state.

The federal voting system standards are a crucial component of election security in California and in numerous other states that require voting systems to meet the federal standards. Unfortunately, for many years these standards have lagged behind the risks associated with newer, computerized voting systems. The draft guidelines before you represent a significant improvement and have the potential to greatly increase public confidence in computer voting security.

In the nearly six hundred pages that comprise the draft VVSG, there is one phrase that is vitally important to the future security of U.S. voting systems: software independence.

Part I, Chapter 2.7 of the draft VVSG states that:

> *"Software independence means that an undetected error or fault in the voting system's software is not capable of causing an undetectable change in election results. All voting systems must be software independent in order to conform to the VVSG."*

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Software independence is a term of art that was coined by Ron Rivest and John Wack during their work on these guidelines. For years, CVF and many others concerned with the security of computer voting systems have struggled to explain exactly why it is that an entirely computerized system run on proprietary, secret software cannot deliver reasonably trustworthy election results.

What has been missing from the discussion, and what is needed in voting systems is the idea of software independence. We need voting systems that can provide the strongest possible assurance to the public that the results have not been compromised or reached in error. A system that runs on software but produces results that cannot be verified independent of that software is inadequate and under the new guidelines could not be federally qualified.

Indeed, a growing number of states have recognized the need for software independence. Thirty states now require either paper ballots or voter-verified paper records of electronic ballots, and more than half of these states also require post-election auditing of those ballots or paper records in order to verify that the voting software worked correctly.

The reason why so many states have passed these requirements is because over the past eight years since electronic voting has been widely implemented, there have been numerous, well-documented computer voting failures. There have been cases where thousands of votes have disappeared. There have been situations where touchscreen votes were "flipped", recording votes for the wrong candidate. There have been numerous cases where uncertified software was used. Thousands and thousands of voters have been disenfranchised because of technical problems with electronic voting machines. Numerous studies have been conducted across the country documenting the various ways computer voting systems can be compromised.

Too many times vendors or election officials have interpreted a "paper trail" requirement to mean a paper record of the total number of ballots cast on a single machine. Such records are printed at the close of polls, after the voters have left and provide no means for independent verification of the voting software. By defining software independence and including a software independence requirement in the VVSG, the EAC will be providing those states that require voting systems to meet the federal requirements and also require a paper ballot and/or post-election auditing with a strong assurance that the systems they purchase and use will meet their expectations.

The California Voter Foundation applauds the TGDC and the National Institute of Standards and Technology for their vision and leadership in incorporating software independence into the draft guidelines, and we strongly encourage the EAC to adopt this requirement.

Sincerely,

Kim Alexander
President